

# Plague

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## **What is plague?**

Plague is a disease caused by bacteria that live in certain rodents (e.g., squirrels, prairie dogs, or mice) and other small mammals (e.g., rabbits or hares).

## **Who gets plague?**

Anyone can get plague, but it occurs more often in people working in or visiting areas with infected animals. Cases often occur in areas where housing and cleanliness is poor. They are usually associated with infected rats and fleas that live in the home. Plague is rare in the United States. Fewer than 20 people in the U.S. are diagnosed with plague every year. Cases generally occur in the western and southwestern parts of the country. Worldwide, from 1,000 to 3,000 cases of plague are diagnosed every year.

## **How is plague spread?**

Plague bacteria live in certain animals, such as rodents and other small mammals. Fleas feed on the animals and get infected. The disease may be spread to people if they are bitten by the infected fleas. People may also get the disease through close contact with infected animals (e.g., through an animal bite or scratch or through handling animal tissues). If the disease gets into the lungs, it may be spread from person-to-person by droplets released when coughing.

## **Could plague be used for bioterrorism?**

Yes. Plague is considered to be one of the agents that could be used for bioterrorism because the disease can be spread from person-to-person and would cause increased illness and death in the population if used as a weapon. If plague was used for bioterrorism, it probably would be aerosolized (made airborne).

## **What are the symptoms of plague?**

Symptoms can include fever, chills, nausea, headache and body aches. Specific types of plague also lead to other symptoms. For bubonic plague, patients develop a swollen, painful lymph node (called a “bubo”) near where the infected flea bit the person. For septicemic plague (bloodstream infection), patients develop abdominal pain, shock and bleeding into skin and other organs. For pneumonic plague (lung infection), patients develop a cough with bloody or watery sputum and have difficulty breathing.

## **How soon after exposure do symptoms appear?**

The symptoms appear anywhere from one to eight days after exposure.

## **How is it diagnosed and treated?**

There are special laboratory tests that can be used to diagnose plague. Samples may be taken from the swollen lymph node, blood, spinal fluid, or other body sites.

Specific antibiotics are prescribed by a doctor to treat plague. If pneumonic and septicemic plague patients do not receive early treatment, the disease is almost always fatal. Untreated bubonic plague is fatal about half of the time. Even with early treatment, death from plague can occur five to fourteen percent of the time.

## **What can be done to prevent the spread of plague?**

Travelers to areas where plague occurs should avoid contact with rodents and fleas, avoid handling sick or dead stray animals, and stay away from rodent infested places. Persons with plague and their clothing and belongings should be treated to kill all fleas. Rodents and fleas should be controlled where the disease has occurred. Persons with plague that results in pneumonia should be isolated in the hospital until 48 hours after antibiotics have been started. Some close contacts should also be treated with antibiotics and watched for any signs of illness.

## **Is there a vaccine for plague?**

The vaccine for plague was discontinued in the United States in 1999 and is no longer available.